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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,334	09/24/2003	Yu-Tung Huang	38699-8035US	5674

25096 7590 09/16/2004

PERKINS COIE LLP  
PATENT-SEA  
P.O. BOX 1247  
SEATTLE, WA 98111-1247

EXAMINER
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WILLIAMS, ALEXANDER O

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/671,334

Applicant(s)

HUANG ET AL.

Examiner

Alexander O Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/7/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

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Serial Number: 10/671334    Attorney's Docket #: 38699-8035US  
Filing Date: 9/24/2003;

Applicant: Yu-Tung Huang

Examiner: Alexander Williams

This application is a divisional of serial # 09/275815, filed 3/25/1999, now U.S. Patent # 6,642,611, issued 11/4/03.

Applicant's election without of Group I (claims 1 to 21), filed 7/15/04, has been acknowledged.

Claims 22-33 have been canceled.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities: The divisional application information should be updated.

Appropriate correction is required.

The use of the trademark "A1 substrate" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Note: In claim 1, line 11, "flatened" should probably be --flattened--. Also, in claim 12, line 12, "flatened" should probably be --flattened--.

Claims 2 and 13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2 and 13, it is unclear and confusing to what makes up an "A1 substrate."

Any of claims 2 and 13 not specifically addressed above are rejected as being dependent on one or more of the claims which have been specifically objected to above.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 21, **insofar as claims 2 and 13 can be understood**, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukihuru (U.S. Patent # 6,150,748).

1. Fukuhura (figures 1 to 7) specifically figures 3 and 4 show a package assembly for an electronic device, comprising: a substrate **36** having a first surface with a first plurality of contact pads **4-1** and a second plurality of contact pads **4-2**, a second surface with a plurality of connection pads, and a plurality of via holes connecting said first plurality of contact pads and said plurality of connection pads; and a buffer layer **34 or 51-1** between said substrate and said electronic device, and a surface of said electronic device having electrodes **3-1, 3-2** being opposite to said first surface of said substrate, said buffer layer having an opening to expose said first plurality of contact pads, wherein said buffer layer surrounds the edge of said electronic device and a fastening face of said edge of said electronic device and said buffer layer is unflattened. Fukuhura (figures 4 and 5) fail to explicitly show a second surface with a plurality of connection pads, and a plurality of via holes connecting said first plurality of contact pads and said plurality of connection pads. However, it would be obvious to one of ordinary skill in the art that the contact pads **4-1,4-2** are further connected through the substrate to an external connection.

Fukiharu is cited for showing a surface acoustic wave device. Specifically, Fukiharu (figures 1 and 2) discloses a package assembly for an electronic device, comprising: a substrate **11** having a first surface with a first plurality of contact pads **4-1** and a second plurality of contact pads **4-2**; a second surface with a plurality of connection pads **10-1,10-2**, and a plurality of via holes **9-2,9-1** connecting said first plurality of contact pads and said plurality of connection

pads; a second surface with a plurality of connection pads, and a plurality of via holes connecting said first plurality of contact pads and said plurality of connection pads for the purpose of being capable of electrically shielding the SAW element against an external electric field while design to have a small volume.

2. The package assembly in claim 1, Fukihuru (figure 1) show wherein the material of said substrate is selected from the group consisting a ceramic substrate.

3. The package assembly in claim 1 Fukihuru (figure 4) show wherein said buffer layer (**resin material**) is selected from the group consisting of an organic film layer and a polymer film layer.

4 and 7. The package assembly in claim 1, Fukihuru (figure 4) show wherein said buffer layer is conductive **51-2**.

6. The package assembly in claim 1, Fukihuru (figure 4) show wherein said opening in said buffer is preformed.

8 and 18. The package assembly in claim 1 or 12, Fukihuru (figure 4) show wherein said buffer layer has a thickness of 30-200 microns. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

9. The package assembly in claim 1, Fukihuru (figure 4) show wherein said fastening face of said edge of said electronic device and said buffer layer has a corner.

Initially, and with respect to claims 10, 16 and 20, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hira, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear.

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As to the grounds of rejection under section 103, see MPEP § 2113.

11 and 21. The package assembly in claims 1 or 12, Fukihuru (figure 4) show wherein said electronic device is a surface acoustic wave device **1**.

12. Fukuhura (figures 1 to 7) specifically figures 3 and 4 show a package assembly for a electronic device, comprising: a substrate **11** having a first surface with a first plurality of contact pads **4-1** and a second plurality of contact pads **4-2**; and a buffer layer **34 or 51-1** having a plurality of openings to expose said first plurality of contact pads, and said plurality of electronic devices being on said plurality of openings respectively, wherein a respective surface of said electronic device having electrodes **3-1,3-2** is opposite to said first surface of said substrate, said buffer layer surrounds the edge of said plurality of electronic devices, and fastening faces of said edge of said plurality of electronic devices and said buffer layer are unflattened. Fukuhura fails to show a plurality of electronic device; a second surface with a plurality of connection pads; and a plurality of via holes connecting said first plurality of contact pads and said plurality of connection pads. However, it would be obvious to one of ordinary skill in the art that if one electronic device, a plurality can be formed and the contact pads **4-1,4-2** are further connected through the substrate to an external connection.

Fukiharu is cited for showing a surface acoustic wave device. Specifically, Fukiharu (figures 1 and 2) discloses a package assembly for an electronic device, comprising: a substrate **11** having a first surface with a first plurality of contact pads **4-1** and a second plurality of contact pads **4-2**; a second surface with a plurality of connection pads **10-1,10-2**, and a plurality of via holes **9-2,9-1** connecting said first plurality of contact pads and said plurality of connection pads; a second surface with a plurality of connection pads, and a plurality of via holes connecting said first plurality of contact pads and said plurality of connection pads for the purpose of being capable of electrically shielding the SAW element against an external electric field while design to have a small volume.

13. The package assembly in claim 12, Fukihuru (figure 1) show wherein the material of said substrate is selected from the group consisting a ceramic substrate.

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14. The package assembly in claim 12, Fukihuru (figure 4) show wherein said buffer layer (**resin material**) is selected from the group consisting of an organic film layer and a polymer film layer.

17. The package assembly in claim 12, Fukihuru (figure 4) show wherein said buffer layer is conductive **51-2**.

19. The package assembly in claim 12, Fukihuru (figure 4) show wherein said fastening faces of said edge of said plurality of electronic devices and said buffer layer have a corner respectively.

Therefore, it would have been obvious to one of ordinary skill in the art to use the teaching of Fukihuru's SAW device for the purpose of being capable of electrically shielding the SAW element against an external electric field while design to have a small volume.

The listed references are cited as of interest to this application, but not applied at this time.

Field of Search	Date
U.S. Class and subclass: 257/778,680,774,772,779,737,734,738,690,691,696,698,6 68,787,784,786,700,701,758,783 310/348,313 R,340,344 174/260,261 361/760,772,777 385/14,49,91 333/133,193	9/13/04
Other Documentation: foreign patents and literature in 257/778,680,774,772,779,737,734,738,690,691,696,698,6 68,787,784,786,700,701,758,783 310/348,313 R,340,344 174/260,261 361/760,772,777 385/14,49,91 333/133,193	9/14/04
Electronic data base(s): U.S. Patents EAST	9/14/04




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272 1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AOW  
9/14/04



Primary Patent Examiner  
Alexander O. Williams